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U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

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# NATIONAL FOREST TIMBER APPRAISALS

A Statement of Forest Service Conclusions
on the Recommendations and Suggestions
of the Report of the Timber Appraisal Review Committee

This statement of policies for appraisal of National Forest timber analyzes the report of the Timber Appraisal Review Committee submitted on June 1, 1963. Policies and action of the Forest Service on the recommendations of the report are stated.

The Timber Appraisal Review Committee Report includes six specific summary recommendations. In addition, there are numerous detailed recommendations in the report text, but these recommendations are not specifically identified. In its study of the report, the Forest Service developed the list of 37 recommendations which is attached to this statement. These recommendations have been grouped into 12 headings for analysis and discussion purposes.

## 1. GENERAL ITEMS

The comments discussed under this heading are all of a general nature and involve little controversy. They set the background for subsequent discussion.

The Committee stated that "basically the method which has been developed over the years for appraising National Forest timber is satisfactory although unduly complicated and we cannot suggest a radically different or better method. What we do believe is that important modifications should be made in the existing framework."

The Committee approves the concept of appraising to the operator of average efficiency, "even though this is a somewhat hypothetical concept." It urges that appraisal procedures be simplified. It supports a minimum price schedule for selling National Forest timber and thinks that the present $1.00, $2.00 and $3.00 minimum prices are reasonable and satisfactory. The Committee feels that "the Forest Service should encourage and develop competition among buyers of National Forest timber in order that the market may carry out its function of determining the selling price. This may consist of varying the size of the sale, the length of the sale, the timing of offerings, and similar actions but should not include withholding timber from sale because of lack of competition."

The Committee has emphasized the need for internal consistency in timber appraisal work. By consistency, it means that cost and returns must be related to the same units of measure and that such items as hauling costs must be related to the kinds of roads provided for in the appraisal allowance and that the point of appraisal must be feasible in terms of the assumptions about road developments, hauling costs and final product outturn.

All of the items above discussed are enunciations of sound principles. They introduce no new concepts to the framework within which the Forest Service is working on timber appraisals. They have been cited here primarily to point out that there are no substantial contentions over these general items of the Committee's report which may be construed as recommendations.

## 2. STATEMENT OF OBJECTIVES

The Committee recommends that the Forest Service publish a statement of objectives for the sale of National Forest timber. This is Item No. 1 in the Committee's six-point Summary Recommendation. In the text of the Committee's report, it is evident that the concern here is over the recognition of a mutual dependence between the Forest Service as a timber grower and the forest products industries as a processor. The Committee says the Forest Service cannot logically act as if it were a small timberland owner with annual sales that are of no significance in the overall wood economy. These concepts are sound.

It is surprising to have questions raised over objectives for National Forest timber sales. The management of the National Forests under the principle of sustained yield has been well established for more than half a century. It was given statutory recognition in the Multiple Use-Sustained Yield Act in 1960. Spokesmen for the Forest Service have emphasized since the close of World War II that its objective is to build the allowable cut up to the full cutting rate working circle by working circle. The need for a healthy forest products industry to attain this objective has been stated on numerous occasions. In January 1963 Secretary's Regulation S-6 was amended in order further to emphasize that an orderly program of timber sales designed to obtain the regular harvest of National Forest timber at allowable cutting rates in accordance with timber management plans is one of the prime objectives of National Forest management.

As a further supplement to this Secretarial instruction, Section 2430.2 of the Forest Service Manual will be amended to read as follows:

> 2430.2 - Timber Sale Objectives
>
> An orderly program of timber sales designed to obtain the regular harvest of National Forest timber at allowable cutting rates in accordance with timber management plans is one of the prime

objectives of National Forest management. This provision of Regulation S-6 assigns a high priority to the accomplishment of a sales program which will result in cutting at allowable rates. The sales program is thus an important segment of the total program of multiple use and sustained-yield management for the National Forests.

Adequate markets for timber are dependent on a progresive and healthy forest products industry. In the long run, a successful sales program is dependent on a market generated by a healthy forest products industry.

The timber sales program must be coordinated with other forest uses. Provisions in the conditions of sale should be made to insure that such other uses and values are reasonably safeguarded during the logging process and that the timber purchaser makes reasonable replacement for unavoidable damage or wear and tear from his operations. Under some circumstances, the costs a timber purchaser must incur to gain access and to perform the logging in a manner which will safeguard other uses make economic operation marginal. The Development Program for the National Forests to improve access and to improve timber quality is a major means by which submarginal situations can be rectified.

While a major objective of National Forest management is to provide a permanent even flow of stumpage to local forest industries, the sale program must be fitted into the state of development of the particular working circle. Sale layouts and choice of cutting areas must be suitably distributed to meet management plan premises. If transportation facilities, beyond those yet available, are required they will have to be provided as part of the timber harvesting operations.

## 3. ACCEPTABLE VALUE VERSUS MARKET VALUE

The basic timber sale act (16 U.S.C. 476) authorizes sale at not less than appraised value. The Forest Service considers that appraised value as used in this context means fair market value. Decisions by the General Counsel of the Department of Agriculture support this view.

The Committee feels that the price which the Forest Service should seek in its appraisals needs to be defined more clearly. It suggests that market value is too vague in view of the kind of market in which National Forest timber is sold and recommends the use of an "acceptable price" as a more reasonable appraisal goal.

The Committee explains that its "acceptable price" is one determined by analytical appraisal. Determinations of market value for National Forest timber are also based primarily on analytical appraisal. There are some

differences in detail on viewpoint and procedures for fixing profit allowances in these analytical appraisals between the Committee recommendations and current practices. However, as a practical matter, the general level of profit ratios recommended for use by the Committee is in the same range as has been used in National Forest timber appraisals for more than 10 years.

In fixing profit ratios for use in the determination of "acceptable price" as proposed by the Committee, no consideration would be given to prices actually paid for timber. Practice in National Forest appraisals includes consideration of transaction evidence on comparable timber but because of the peculiar circumstances of timber supply and demand relationships, overbids have been heavily discounted and generally the values indicated by analytical appraisal have been used as fair market value. On this point the Committee states:

> "While the Forest Service Handbook does suggest the use of transaction evidence as one of the several guides in determining a possible need for adjusting the profit ratio, the Committee found that its use, during recent periods, has had but minor influence on the profit ratio. Industry charges of reliance by the Forest Service on transaction evidence seem to be unduly inflated in the light of the facts."

As a practical matter, therefore, current practice results in determinations of appraised values which are considered fair market values and which are, except in unusual circumstances, identical or very close to the results which would be the result from use of the Committee's concept of determination of an "acceptable value." There are circumstances when adherence to the method suggested by the Committee would result in substantially different value determinations than the facts justify. We feel it is important in such circumstances to use transaction evidence as a guide to adjustment of profit ratios. At times, some other type of adjustment may be needed. For example, in the fourth quarter of calendar year 1963, we are increasing profit ratios by two points in the western pine operating area and using second rather than third quarter selling prices in western Oregon and western Washington in order to overcome abnormal and temporary high lumber and plywood prices for the third quarter of calendar year 1963 during the west coast lumber strike.

We consider that our current methods and Committee recommendations are in disagreement only as they apply to a relatively small number of cases. We feel that adoption of the Committee's suggestion to term this procedure the determination of "acceptable price" would lead to unnecessary issues or problems as to whether the statutory appraisal requirements in the basic timber sale act were being met. We doubt the advisability of seeking legislation to establish some basis other than fair market value to appraise National Forest timber for sale.

## 4. PROFIT

The Committee has taken a strong viewpoint on the need for a normal profit allowance in the appraisal of timber offered for sale. These views are expressed with a number of ramifications. The Committee has also made specific recommendations on the level of profit margins and the division of a margin for profit and risk into separate items for profit and for risk.

One of the first positions taken by the Committee on items relating to profit allowance is its clear-cut recommendation for use of the sale-as-a-whole principle. The sale-as-a-whole principle makes the average profit margin for all species the controlling factor in setting profit allowance. Frequently, for timber offerings where logging costs are relatively high, species with low sales realization do not have sufficient conversion return to equal normal profit plus minimum stumpage. It is for such situations that sale-as-a-whole appraisal premise is applicable.

On this point, the Committee states (page 33): "In the event that this residual turns out to be less than the minimum price for a species, the Committee recommends that a sufficient portion of the costs charged against that species be transferred and distributed proportionately to those species with indicated stumpage values in excess of their respective minimums. This method, known as the 'sale-as-a-whole' concept, will bring all appraised stumpage values up to the minimum with the higher valued species 'carrying' the species that have indicated values less than the minimum. In no case, however, should this adjustment be made by a reduction in the margin for profit and risk, which must be retained at the normal level for each species."

While cost charges for such items as road expenditures which do not vary with output volume can properly be prorated to species at varying rates, the suggestion that other operating costs be transferred around among species arbitrarily is unacceptable. For an appraisal to have validity, the costs incurred for processing each species cannot be so juggled.

The Forest Service has been using the sale-as-a-whole concept in its appraisals since the last half of 1962. In attaining an average all-species profit margin considered to be normal for the particular circumstance, it increases the profit margins on the species with higher conversion values so that the total all-species profit allowance is that indicated by application of normal profit to each species. While the results from this procedure are the same as those resulting from the Committee's suggestions, the integrity of cost estimates is maintained.

For circumstances where average all-species conversion value is less than normal profit plus minimum stumpage, there is no adjustment in appraisal mechanics which will produce an offering with a normal profit margin. So that conversion value will equal at least minimum stumpage plus normal profit, the Committee urges that the sale offering be adjusted to include

more timber or that other measures be applied to reduce costs or increase sales realizations. Established policy has been and will continue to be to do this where it can be done without upsetting necessary sequences of timber cutting for the working circle. The most logical and most employed device to increase conversion return is to use appropriated funds for a portion of the necessary road construction.

Sale areas are now designed and, if need be, redesigned to reduce operating costs or increase returns to go as far as possible toward making average conversion value at least equal minimum stumpage and normal profit. A large portion of available funds for forest development roads is being used for survey design and supplemental construction of purchaser-built roads to overcome submarginal conversion return difficulties.

The causes of and cures for submarginal conversion returns are, strictly speaking, outside of the subject of appraisal procedure. From a long-range viewpoint, submarginal conversion returns result from lack of development of forest properties. The Development Program for the National Forests is the basic means to reduce our area of submarginal value timber. This will be accomplished through better access as the full forest development road system is installed and better timber quality as the effects of timber stand improvement measures mature into timber ready for harvesting. Submarginal timber problems are rare in areas with an adequate road system.

However, in attempts to reduce operating costs or increase sales realizations, we will not consider policies which disregard essential silvicultural practices or safeguards for National Forest values and uses. Slash disposal, snag felling, erosion control and other measures needed to take care of debris and disturbance from logging have always been considered a part of the logging job. If this work is not done by the timber purchaser, we must obtain appropriations to do it. We question the advisability of seeking appropriations to do this type of work in order to bolster appraisal profit margins. It could be characterized as subsidizing the cutting of public timber.

The facts of life are that timber which appraises out with less conversion return than normal profit plus minimum stumpage is often readily purchased at prices substantially above minimum rates in many areas. Such purchases may be due to such reasons as (1) errors in appraisal which result in an underestimate of conversion return, (2) purchaser is seeking to continue operation of mill after depletion of supermarginal timber which formed the basis for the installation, (3) purchaser's mill installation is premature for purpose of establishing advantageous position in expectation of improved situation, (4) excessive competition for available supermarginal timber makes submarginal offering relatively attractive, and (5) lumber market is depressed but expected to recover.

Particularly in the 42 National Forests of the Pacific Coast and Inland Empire States where timber supply-demand relationships are critical, we have been working strenuously to maintain continuity of sale offerings

at full allowable cutting capacity. A sale program of this scope cannot be maintained without making some offerings where appraisals show that average conversion return is less than minimum stumpage plus normal profit. We intend to maintain sale programs at full allowable cut levels on these Forests where timber demand is intense even though with the most careful sale design it may be necessary to make some offerings with submarginal profit allowance. The only alternative would be to withhold submarginal profit sales and reduce allowable cut rates.

The Timber Appraisal Review Committee has recommended profit margin levels of between 10 and 15 percent profit ratio as the general rule. This is the range of profit ratios which the Forest Service has generally been using over the last 10 years.

In its discussion of appropriate profit levels, the Committee draws a distinction between profit and risk. The Committee says that the margin for profit to maintain economic stability, to perform research and development, and to be attractive to equity capital is a constant which should be used in all timber appraisals and should not vary either with geographic location or time. This concept disregards the variation in capital investments per sales dollar. This variation differs between forest products industries in different parts of the country. It also differs between large and small operations. It differs for operations using the same material but which develop different sales realizations. It differs over time as automation develops. We plan to continue to make profit margin adjustments for these purposes.

The Committee recommends a variable risk allowance based on inherent characteristics of the particular timber tract. These five items are: (1) The relative lumber price stability of the particular species; (2) inherent conditions on the sale area which make prediction of logging costs uncertain; (3) probability of hidden defect and of abnormal breakage; (4) length of sale period; (5) amount of salvage in the sale with its attendant risk of degrade before removal. The Committee suggests that the allowance for risk be from zero to 50 percent of the amount of margin suggested for profit.

Most of the items listed by the Committee will require adjustment in risk allowance for unusual situations but there is normally little variance from sale to sale or from Region to Region for the factors which the Committee has listed. Relative price stablity between species varies to only a minor degree. The spread between maximum and minimum prices according to the Western Pine Association indices is quite close for all species except for white fir. All-time index highs were recorded between May and August 1956 and most recent lows were recorded between December 1960 and March 1961. For all three pine species and Douglas-fir, the spread between high and low was between 20 and 23 percent of the all-time high price. For white fir this spread was approximately 28 percent.

An additional allowance for risk of uncertain cost estimates for new logging methods would be appropriate. For conventional logging procedures the greatest uncertainty has been in connection with road cost estimates and road cost amortization allowances. This we agree needs more attention. We are working on contract provisions to overcome the most serious of these difficulties.

The probability of hidden defect or abnormal breakage is a highly significant risk rate factor in lump sump sales or sales where the volume to be paid for is fixed by cruise or tree measurement. This factor has minor significance for sales based on log scale volume using contracts with provisions to adjust road amortization rates to scaled volume.

We do vary risk allowances in some unusual circumstances. Length of sale may be a reason to vary risk allowance where lumber price prospects for short-term sales for immediate operation differ markedly from lumber price prospects for longer term sales. Somewhat similar considerations apply to sales of salvage material which is subject to degrade. A salvage timber purchaser does not have the flexibility of scheduling his cutting to fit market conditions as does a purchaser of green timber. These circumstances are evaluated and reflected in profit margins for salvage sales.

A further study of profit levels for use in appraisals, as suggested by the Appraisal Review Committee, is desirable. The study should review the various sources of profit compilations by industries and industry-size classes and establish a systematic basis for interpretation of such statistics both from year to year and on a comparative basis between industries. A comprehensive statement on this subject should prove quite helpful in establishing common understanding with industry on the significance and interpretation of published profits statistics. A needed second phase for study is the significance and use of data on attained profits in past years for guidance in setting profit margins in appraisals which estimate costs and margins applicable to future cutting.

The Forest Service has made two previous attempts to obtain effective analysis and advice on the subject of profit levels through independent studies by persons not previously connected with National Forest timber appraisal activities. (The work of the Timber Appraisal Review Committee is one of these attempts.) The fact that, as pointed out by the Committee, further study is still needed suggests that joint effort by personnel responsible for National Forest timber appraisals with qualified economists is needed. We plan to pursue these studies with the assistance of other agencies of the Department on this basis.

## 5. ROADS

The subject of roads is one of the six summary recommendations of the Committee. This recommendation reads as follows:

> "The costs of constructing permanent access roads should be segregated from the rest of the appraisal. The cost of such permanent roads should be borne by the public. Under the present appraisal procedures it is possible for part of this cost to fall entirely on the timber buyer if the amortization computations are in error or if the timber is sold with a road amortization deficit."

In the body of the report the Committee outlines a proposal for appraisal on the basis that the permanent roads are in place. It then suggests that for timber priced on such basis the cost of the road construction be credited to the purchaser in the same manner as though it were a stumpage payment. Other remarks by the Committee on the subject of roads include a recommendation supporting the prudent operator policy stated in the present Forest Service Handbook and a recommendation that efforts be made to improve road cost estimates.

The Committee's basic position on roads comes from the assumption that the Forest Service is engaged in the extension of the permanent utilization road systems through timber sale contracts. The Forest Service does not claim to have authority to require timber purchasers to construct permanent roads beyond the conditions stated in the Forest Service Handbook, Section 2431.24, which the Committee cites with approval. A proposal to establish authority to obtain permanent access road construction under timber sale contracts is included in the Bill S.1147 now under consideration by Congressional Committees.

Until this or comparable statutory authority has been enacted, contract wordings, timber road specifications, and appraisal premises must be based on a proposition that the roads the purchaser must build are those necessary to remove the subject timber. Such roads must be constructed to standards which safeguard National Forest lands and other uses. Specifications are also included which will develop maximum residual value providing such requirements do not result in increasing the total transportation costs to the operator, comprising construction, maintenance and truck operation.

Because many of the roads a timber purchaser builds have residual value for additional timber hauling or other uses, the construction in whole or in part of such roads from public funds when feasible is desirable. In contrast, temporary spur roads which are useful only for timber harvesting and for a few weeks of life, should not be constructed from public funds. The fact that the main road the timber purchaser builds should preferably have been built by public funds in advance of the timber offering is not a basis for giving special treatment to road

construction expenditures of a timber purchaser. As long as the contract road construction requirements are limited to the purchaser's needs for removal of the timber under contract, the purchaser's road construction activities should be regarded in the same light as any other cost of conducting the logging operation.

The purchaser's road construction activities require special treatment in the appraisal because road construction is a development activity which serves all tributary timber rather than specific trees or logs. Daily road construction cannot properly be charged to the daily log output. Instead road construction expenditures are accumulated in a separate account which is amortized by cost allowances per M board feet of timber expected to be cut. A variance between the volume estimate used in the appraisal and the volume actually cut will result in either an under- or overamortization of estimated road costs. Various methods have been developed to insure that amortization based on final cut will neither underrun nor overrun the estimated cost of the road construction. The Timber Appraisal Committee's proposal to appraise as though main roads are in place and to treat the estimated cost of these roads as though it were a stumpage deposit is another variation to accomplish this purpose.

The Forest Service is now working on a system which in essence is a variant of the Timber Appraisal Review Committee's proposal. This system will hold stumpage payment rates at minimum or base rates until the estimated cost of roads is amortized. When amortization is accomplished, payments would be at those rates which would be appropriate if the roads had been constructed at public expense in advance of the sale. This system will give priority to amortization of roads, subject only to payment of base rates for all stumpage cut. This point is of concern to county governments. We have received from county officials objections to a system under which there would for a period in a sale be no payments, for then there would be no 25 percent share for the counties.

## 6. PERSONNEL AND ORGANIZATION

The Committee summarizes its position on personnel and organization as follows: "Part of the problems which develop in national forest appraisals have their origin in the personnel engaged in the work. Teams of specialists assigned permanently to making appraisals would avoid many of the errors which now result from a lack of experience or competence." In addition, the Committee made specific recommendations for the assignment of specialized personnel to cruising with provision for keeping these people in one area to develop local competence. Another specific recommendation is to use technicians under the supervision of foresters for scaling and cruising.

The Forest Service field force must necessarily be organized to provide multifunctional services. As the size, complexity and concentration of activities in specific fields increase, the policy of the Forest Service is to provide for specialized services as may be needed within the basic pattern of its line-staff organization.

A number of broad measures have been taken to facilitate development of higher degrees of specialization. The forester classification standards of the Civil Service Commission are written to facilitate the development of greater expertness and specialization. Our personnel management efforts have emphasized needs for increased tenure at all levels. Forest Service policy is to increase employment of competent technicians. Recently revised career plans are intended to design and promote specialized careers for both technicians and professionals. Our new training and development guides are designed to increase competence at all levels and to help develop expertness. We are constantly striving, through management devices, to improve staffing, and to strengthen the performance of our people.

On a National Forest where timber sale business is of sufficient volume to justify it, the present organization of appraisal and sale administration specialists provides a corps of qualified people somewhat along the lines suggested by the Timber Appraisal Review Committee. However, the deliberate isolation of the appraisal work from other phases of sale administration is not encouraged. The give-and-take between making estimates and seeing how they work out, which is gained from participation in both sale administration and timber appraisal, is largely lost where the two functions are separated.

The Forest Service views the development of further specialization as desirable and inevitable. However, careful and balanced judgment on relative importance of an activity as compared to other activities in which the Forest Service must engage in its multiple use program must be used in the practical control of specialists programs. The Committee's recommendation is similar to those frequently made by functional specialists in various professions. Management analysts, however, generally advise that broad scale organizational difficulties arise out of too much rather than too little specialization.

In a multifunctional organization such as the Forest Service, the quality of the appraisal or any other intricate special job is strongly dependent on the ability of responsible line officers to recognize and require good work. A corps of line officers interested in and knowledgeable about timber appraisals is essential. Such interest and knowledge is developed by a tour of duty in this field of work for the men on their way up in the administrative organization. This is fostered by the present Forest Service career ladder and personnel policies. The proposal to isolate timber appraisal into a field reserved for subject matter specialists would work in the opposite direction.

We agree with the recommendation to increase use of local experienced nonprofessional personnel for cruising and scaling work. We are doing so. It is essential, however, for professional personnel to gain this type of experience in the early portion of their careers. The two groups need to be intermixed for best long-term results. A part of the strength of the Forest Service organization is that responsible administrators have had such experience in the early parts of their careers.

The Forest Service feels the Committee has expressed some interesting viewpoints on the organization and personnel policies for appraisal work. However, their recommendation must be tempered by other considerations of how the appraisal work can be best fitted into the many other responsibilities of the field organization.

## 7. CRUISING, SCALING AND MARKING

The Committee has made recommendations in connection with check log grading, the use of tree grading, on further work on volume tables and for marking timber in advance of advertisement. The Committee recommendation on log grading checks at well distributed frequencies is in accord with Forest Service policy.

The Committee suggests that more emphasis be given to the indicators visible in the standing trees in log grade specifications. This is a good recommendation. This whole subject of log grade specifications has been under specialized study. The log grading which is most widely used by industry is in the Douglas-fir region where decisions about grade definitions are under control of industry rather than the Forest Service. The grades in the Douglas-fir region are designed for the use of scalers rather than cruisers. Hence, the Committee's recommendation is more directed at industry than the Forest Service in this particular area.

The Committee suggests that certain species or diameter classes may lend themselves to whole tree grading where the range in lumber recovery grades is limited. The Forest Service is in agreement with this observation and has done considerable work on it. Also, studies are continuing on volume tables for National Forest cruising, as the Committee suggests.

In the field of marking, the Committee strongly recommends that every area be completely marked before the timber is offered for sale and that the volumes be determined simultaneously with the marking. Over the last six or seven years, substantial progress has been made by all Regions in premarking of areas cut by individual tree designation.

## 8. SALES REALIZATION

The Committee made a series of recommendations on measures to be taken to insure the accuracy of the sales realization calculations in appraisals. Recommendations were made on such items as (a) checks to be sure that log values can actually be realized under conditions of the sale as assumed in the appraisal, (b) emphasis on local batch or input-output studies, (c) more lumber grade recovery studies, (d) more correlations between tree and mill deck log grading, (e) attention to insure that overrun figures used in appraisals are realistic, (f) use of log markets wherever they exist, (g) evaluation of by-product recoveries, (h) deductions of discounts and commissions from selling prices, and (i) recognition of underweight income.

The Committee's recommendations are all in accord with current Forest Service programs. We are anxious to work more closely and intensively with industry on conventional mill scale studies as well as "batch" and "input-output" studies along the lines discussed by the Committee.

## 9. LOGGING COST

The Committee made two specific recommendations in connection with logging costs. It recommended that the Forest Service make more strenuous efforts to obtain and use costs which allow fully for log size, terrain and other local conditions. It also urged that cost data used in appraisals for logging should be based on operators cutting National Forest timber.

In order to make adjustments of logging cost zone averages for local variations, full and accurate logging costs are needed from National Forest timber operators. We agree that this is desirable. The Forest Service has been working with many of its operators to get them to maintain acceptable costkeeping methods so that a wider and more representative sample base by zones can be developed. Administrative time studies for various phases of the logging operation are also being prosecuted as opportunities develop with timber purchasers.

The objective in cost collections is to obtain cost and selling values most representative and applicable to cutting of National Forest timber. On an ideal basis the most applicable cost would come from operations cutting exclusively on National Forest timber. There are few such operations. Cost must be obtained by operations rather than timber ownerships. The number of operations keeping satisfactory cost records for analysis purposes is still limited. In the compilation of cost data it is desirable to use the same sample operations in order to maintain continuity from year to year. Because of such considerations, regional cost samples usually have to include some concerns which cut varying amounts of private timber.

## 10. POINT OF APPRAISAL

The Committee correctly points out that the assumed location for timber processing is a significant appraisal premise. Two items are discussed which the Committee states represent a tightening up of present practice rather than an actual change in procedure. The first item is in respect to plant location. The Committee sets up three premises: (a) Where there are existing plants and potential purchasers, the point of appraisal should be at the nearest of these plants that has facilities to handle the timber and never at a hypothetical plant location; (b) when no plant exists within economic range, the point of appraisal should be at the most probable location for the new plant; and (c) if the nearest existing plant is not a potential purchaser, it should be disregarded and decision on the plant be based on (a) or (b) above, depending upon whether there are other plants within economic range.

The second comment of the Committee relates to different kinds of timber products, for example, sawlogs and veneer logs. The Committee states that each kind of timber should be appraised at the nearest mill capable of processing it. When there are minor quantities of certain kinds of timber in the sale, an analysis should be made to determine whether it is economically feasible to sort out and transport these small amounts to the nearest specialized mill.

Both of these recommendations are in line with the Forest Service policy.

## 11. ESCALATION

In respect to stumpage rate adjustment procedure (commonly referred to as escalation), the Committee has made three specific recommendations. It recommends abandonment of the concept of basic appraised value; it endorses the present 50-50 split of quarterly shifts in index levels, and it recommends that escalation upwards be limited to the amount by which downward escalation is possible.

The first two recommendations are in accordance with Forest Service policy. The concept of basic appraised value has been made necessary by decisions of the General Counsel which authorized price adjustments downward from the advertised rates. The Forest Service is in the process of getting legal clearance for a new concept which will make it possible to make the appraised price subject to adjustments by certain formulae stated in the timber sale contract, and to eliminate the need for establishment of a basic appraised value.

The Committee recommended that the Forest Service explore the possibility of changing the present escalation method to provide that upward escalation from the bid price be limited to the amount equal to the possible downward adjustment set by minimum prices. Such a change would require a revision in contract language. It can best be considered together with other proposals for revision of associated contract provisions. The Forest Service is willing to give consideration to this proposal as a part of the contract revision project. The scope of other contract revisions which are adopted will have a bearing on what, if any, adjustments should be made in escalation procedure.

## 12. RATE REDETERMINATIONS

The Committee recommends use of the bid premium throughout the life of the sale for such cases as are sold under rate redetermination procedure. The Committee favors keeping rate redetermination cases to the minimum. The Forest Service is in agreement with these two recommendations.

## CONCLUSIONS OR RECOMMENDATIONS FROM THE TIMBER APPRAISAL REVIEW COMMITTEE REPORT

1. "While the concept of an operator of average efficiency is highly hypothetical, it is, nevertheless, a logical basis for the appraisal approach." (page 5)

   Forest Service Comment: This endorses established Forest Service practice.

2. "While the Forest Service Handbook does suggest the use of transaction evidence as one of the several guides in determining a possible need for adjusting the profit ratio, the Committee found that its use, during recent periods, has had but minor influence on the profit ratio. Industry charges of reliance by the Forest Service on transaction evidence seem to be unduly inflated in the light of the facts." (page 7)

   Forest Service Comment: This is in agreement with Forest Service views.

3. "Basically, the method which has been developed over the years for appraising national forest timber is satisfactory, although unduly complicated, and we cannot suggest a radically different and better method. What we do believe is that important modifications should be made in the existing framework." (page 9)

   Forest Service Comment: This is an acceptable conclusion.

4. Prepare and publish a firm statement of policy regarding the purpose of National Forest timber sales. (page 11)

   Forest Service Comment: This recommendation is acceptable. Forest Service Manual insert has been drafted. Basically this issue was settled last January through Secretary's amendment of Regulation S-6.

5. "Since the preparation and administration of national forest timber sales require the expenditure of public money and since the maintenance of forests in an uncut condition provides intrinsic values, national forest timber should only be sold when it will yield some minimum amount of revenue. (Forest Service policy has always recognized that special circumstances may justify giving away limited amounts of timber.) It appears to the Committee that the $1.00, $2.00, and $3.00 minimum prices for different species described in Section 2430.71 of the Forest Service Handbook are reasonable and satisfactory for this purpose and should not be changed." (page 12)

Forest Service Comment: This endorses the established minimum price schedule. However, the Committee disregards its endorsement of minimum proces in its recommendations on sales with submarginal conversion returns as discussed on page 34. See item 31.

6. Make appraised price an "acceptable" or upset price. "Market value" is too vague to be useful in view of the kind of market in which National Forest timber is sold. (pages 12 and 39)

   Forest Service Comment: Forest Service disagrees with this recommendation.

7. Make appraisals as if main access roads have already been constructed and use estimated road costs as credits on stumpage payments until roads are amortized. (page 14)

   Forest Service Comment: This recommendation acceptable in general principle. It will be worked out with industry in connection with contract revision project, subject to minimum stumpage payments at all times which is at variance with Committee suggestion.

8. "The Forest Service should encourage and develop competition among buyers of national forest timber in order that the market may carry out its function of determining the selling price. This may consist of varying the size of the sale, the length of the sale period, the timing of offerings, and similar actions but should not include withholding timber from sale because of lack of competition." (page 13)

   Forest Service Comment: This recommendation is in line with Forest Service policy and practice.

9. Do everything possible to simplify appraisal procedure. (page 16)

   Forest Service Comment: This recommendation is acceptable and in line with Forest Service views.

10. Place greater emphasis on internal consistency in appraisals. (page 17)

    Forest Service Comment: This recommendation is acceptable.

11. Assign the work of cruising and scaling to specialized personnel who remain in one area and develop local competence in estimating grade and in allowing for defect and breakage. (pages19 and 22)

    Forest Service Comment: Forest Service is working toward this recommendation. However, some use of professional personnel and movement of personnel between areas is advisable and necessary.

12. Develop better accuracy in woods log grading through more frequent checks and development of better external indicators of log grade. (page 19)

    Forest Service Comment: This recommendation is acceptable.

13. Continue study of volume tables for use in cruising National Forest timber. (page 20)

Forest Service Comment: This recommendation is acceptable and in line with Forest Service policy.

14. Designate timber for cutting before advertisement and make volume estimates at the same time. (page 20)

Forest Service Comment: This recommendation is acceptable and in line with Forest Service policy subject to exceptions for practical considerstions.

15. Make sure that values assigned to trees and logs are those which actually can be realized under the conditions of the sale. (page 21)

Forest Service Comment: This recommendation is acceptable and in line with Forest Service policy.

16. Improve accuracy of grade recovery and overrun determinations through improved techniques in mill scale studies and expanded use of "batch" or "input-output" studies. (pages 24-26)

Forest Service Comment: This recommendation is acceptable and in line with Forest Service efforts.

17. Appraise to log markets when feasible. (page 25)

Forest Service Comment: This recommendation supports established Forest Service policy.

18. "The Forest Service is presently using this method of current pricing and the Committee believes that the principle is entirely satisfactory." (page 26)

Forest Service Comment: This supports Forest Service policy.

19. "Forest Service appraisals treat cash discounts and commissions as a reduction in the gross estimated selling values. Since it is standard industry practice to selling lumber and wood products on the basis of 'net price', that is, after discounts and commissions, the present Forest Service procedure appears perfectly logical to the Committee. The Committee also feels that any income or costs attributable to underweights or overweights should be credited or charged to lumber selling values on a shipping tally basis." (page 26)

Forest Service Comment: This supports established Forest Service procedure.

20. Include in the appraisal costs and returns for by-products, such as chips, when produced by the average operator in the local area. (pages 26-27)

Forest Service Comment: This supports established Forest Service practice.

21. Expand efforts to obtain and use logging costs which fit the timber and terrain of the specific sale area. (page 27)

Forest Service Comment: This recommendation is acceptable and in line with Forest Service effort.

22. Logging costs used in appraisals should be based on those experienced by operators cutting National Forest sales. (page 27)

Forest Service Comment: This recommendation is acceptable and in line with Forest Service policy subject to practical considerations which, at times, make the use of some costs for logging of non-National Forest timber advisable.

23. "The Committee received practically no complaints about the costs used for the manufacture of lumber and veneer from logs. Apparently the methods followed by the Forest Service in obtaining such costs and the use made of them in the appraisal process are satisfactory." (page 27)

Forest Service Comment: Forest Service practices are approved.

24. Tighten up on the application of "point of appraisal" policy. (page 28)

Forest Service Comment: This recommendation is acceptable and in line with Forest Service policy.

25. Obtain adherence by field officers to instructions in Section 2431.24 of the Forest Service Handbook on purchaser road construction policy. (page 30)

Forest Service Comment: This recommendation is acceptable and in line with Forest Service policy.

26. Continue efforts to improve the reliability of road cost estimates. (page 30)

Forest Service Comment: This recommendation is acceptable and in line with Forest Service policy.

27. Make a thorough economic study of profit margins through a competent research organization. (pages 32 and 33)

Forest Service Comment: This recommendation is acceptable.

28. Use constant profit ratio of 10 percent for profit and a zero to five percent range for risk. (page 12 and pages 32 and 33)

Forest Service Comment: This results in the profit ratio range used by Forest Service for more than 10 years. Hence, Committee conclusions are acceptable but Forest Service differs with Committee on technical details.

29. Use sale-as-a-whole concept in appraisals. (pages 12 and 33)

Forest Service Comment: This recommendation is acceptable and has been followed by the Forest Service since mid-1962 through increasing profit margins for high value species to make up for deficits in low value species, but not as proposed by Committee through juggling costs.

30. "The Committee is not convinced that it would be prudent to attempt to base the profit ratio for Forest Service appraisals on the experience of a competing industry." (page 33)

Forest Service Comment: This recommendation is acceptable. It is a rejection of a key feature of the NLMA Point II.

31. Exhaust every possibility, such as by increaseing the sale area, increasing the proportion of stand being marked, redesign of roads, assuming the costs such as slash disposal, in order to obtain a conversion value at least equal to normal profit plus minimum stumpage. Offer timber at minimum prices which does not appraise out at normal profit margin only as a last resort means of maintaining a dependent firm or community. (page 34)

Forest Service Comment: Forest Service is opposed to using appropriated funds for slash disposal, snag felling, erosion control, and other measures needed to take care of debris and disturbance from logging, which have always been considered a part of the logging job, in order to bolster appraisal profit margins.

32. Continue use of 50 percent of change in lumber indices for quarterly stumpage rate adjustment (escalation). (page 35)

Forest Service Comment: This supports established Forest Service procedure.

33. Abandon the concept of "basic appraised value." (page 36)

Forest Service Comment: This recommendation is acceptable. Forest Service has been working with General Counsel's Office to establish a basis to eliminate the basic appraised value concept.

34. Explore the possibility of changing the present escalation method to provide that upward escalation from the bid price be limited to the amount equal to the possible downward adjustment set by the minimum prices. (page 36)

Forest Service Comment: The Forest Service is willing to explore this possibility in connection with contract revision project, but we have reservations on equity and desirability of this change.

35. Keep sales with provision for rate redetermination to a minimim. (page 36)

Forest Service Comment: This recommendation is acceptable and in line with Forest Service policy.

36. Use a constant bid premium in rate redetermination sales. (page 36)

Forest Service Comment: This recommendation is acceptable and in line with Forest Service proposals to industry for contract revision.

37. Establish timber appraisal staff units in th Forest Supervisor Offices.

Forest Service Comment: This recommendation is acceptable in broad principle. Its application must be kept in line with the volume of business on the various Forests and practical administration and personnel management considerations.